CLASS: IMSc.   SEMESTER : V
BRANCH: PHYSICS   SESSION : MO/2024

SUBJECT: PH320 ATMOSPHERIC SCIENCE

TIME: 3 Hours   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	List the different layers of the Atmosphere. Discuss the diurnal structure of Ionosphere.	[5]	1	1
Q.1(b)	When no strong vertical motion is there in the atmosphere, what balance exist in the atmosphere? Derive the suitable formula for this balance.	[5]	1	3
Q.2(a)	Discuss the forces observed in the atmosphere in detail.	[5]	2	2
Q.2(b)	Derive the pressure gradient force equation in the atmosphere with suitable figures.	[5]	2	3
Q.3(a)	Discuss the various factors responsible to control the solar insolation at the earth surface.	[5]	3	2
Q.3(b)	In atmosphere which are the dominant scattering observed for different constituents of the atmosphere? Discuss in detail.	[5]	3	2
Q.4(a)	What is range measure from a Radar? Write with suitable formula. A radar transmits a pulse of width of 2 microseconds. What is the closest 2 targets can be and still be resolved?	[5]	4	4
Q.4(b)	Write the different application of Lidar.	[5]	4	2
Q.5(a)	Discuss the aerosols classification based on their sizes and also discuss their removal processes.	[5]	5	2
Q.5(b)	Discuss the role of aerosols in the cloud property modifications in detail.	[5]	5	4

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